## **Spotbugs Raw Outputs:**

#### Test 1:

```
<BugInstance type="ST WRITE TO STATIC FROM INSTANCE METHOD" priority="1" rank="15"</pre>
abbrev="ST" category="STYLE" first="1">
  <Class classname="learnsecurity.SimpleWebServer">
    <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
  <Method classname="learnsecurity.SimpleWebServer" name="<init>" signature="()V"
isStatic="false">
    <SourceLine classname="learnsecurity.SimpleWebServer" start="16" end="18"</pre>
startBytecode="0" endBytecode="67" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </Method>
  <Field classname="learnsecurity.SimpleWebServer" name="dServerSocket"</pre>
signature="Ljava/net/ServerSocket;" isStatic="true">
    <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
  <SourceLine classname="learnsecurity.SimpleWebServer" start="17" end="17"</pre>
startBytecode="14" endBytecode="14" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  <SourceLine classname="learnsecurity.SimpleWebServer" start="17" end="17"</pre>
startBytecode="14" endBytecode="14" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
</BugInstance>
<BugInstance type="NP DEREFERENCE OF READLINE VALUE" priority="2" rank="15"
abbrev="NP" category="STYLE" first="1">
  <Class classname="learnsecurity.SimpleWebServer">
    <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
  <Method classname="learnsecurity.SimpleWebServer" name="processRequest"</pre>
signature="(Ljava/net/Socket;)V" isStatic="false">
    <SourceLine classname="learnsecurity.SimpleWebServer" start="36" end="71"</pre>
startBytecode="0" endBytecode="324" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </Method>
  <LocalVariable name="request" register="4" pc="49" role="LOCAL VARIABLE VALUE OF"/>
  <SourceLine classname="learnsecurity.SimpleWebServer" start="51" end="51"</pre>
startBytecode="51" endBytecode="51" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  <SourceLine classname="learnsecurity.SimpleWebServer" start="51" end="51"</pre>
startBytecode="51" endBytecode="51" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
</BugInstance>
```

#### Test 2:

```
<BugCollection version="3.1.11" sequence="1" timestamp="1549534616826"</pre>
analysisTimestamp="1549534611079" release="">
  <Project projectName="Simpleweb">
    <Jar>C:\Users\shrey\eclipse-workspace\Simpleweb\bin</Jar>
    <AuxClasspathEntry>C:\Users\shrey\eclipse-
workspace\Simpleweb\bin</AuxClasspathEntry>
    <AuxClasspathEntry>C:\Program
Files\Java\jre1.8.0_181\lib\rt.jar</AuxClasspathEntry>
    <AuxClasspathEntry>C:\Program
Files\Java\jre1.8.0 181\lib\jce.jar</AuxClasspathEntry>
    <SrcDir>C:\Users\shrey\eclipse-workspace\Simpleweb\src</SrcDir>
  </Project>
  <BugInstance type="DM_DEFAULT_ENCODING" priority="1" rank="19" abbrev="Dm"
category="I18N" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="processRequest"</pre>
signature="(Ljava/net/Socket;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="36" end="71"
startBytecode="0" endBytecode="324" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <Method classname="java.io.InputStreamReader" name="&lt;init&gt;"</pre>
signature="(Ljava/io/InputStream;)V" isStatic="false" role="METHOD CALLED">
      <SourceLine classname="java.io.InputStreamReader"/>
    </Method>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="37" end="37"</pre>
startBytecode="12" endBytecode="12" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="37" end="37"</pre>
startBytecode="12" endBytecode="12" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="DM DEFAULT ENCODING" priority="1" rank="19" abbrev="Dm"
category="I18N" first="1">
```

```
<Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="processRequest"</pre>
signature="(Ljava/net/Socket;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="36" end="71"</pre>
startBytecode="0" endBytecode="324" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <Method classname="java.io.OutputStreamWriter" name="&lt;init&gt;"</pre>
signature="(Ljava/io/OutputStream;)V" isStatic="false" role="METHOD CALLED">
      <SourceLine classname="java.io.OutputStreamWriter"/>
    </Method>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="41" end="41"</pre>
startBytecode="27" endBytecode="27" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="41" end="41"</pre>
startBytecode="27" endBytecode="27" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="DM_DEFAULT_ENCODING" priority="1" rank="19" abbrev="Dm"
category="I18N" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="serveFile"</pre>
signature="(Ljava/io/OutputStreamWriter;Ljava/lang/String;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="75" end="110"</pre>
startBytecode="0" endBytecode="320" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <Method classname="java.io.FileReader" name="&lt;init&gt;"</pre>
signature="(Ljava/lang/String;)V" isStatic="false" role="METHOD_CALLED">
      <SourceLine classname="java.io.FileReader"/>
    </Method>
```

```
<SourceLine classname="learnsecurity.SimpleWebServer" start="91" end="91"</pre>
startBytecode="47" endBytecode="47" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="91" end="91"</pre>
startBytecode="47" endBytecode="47" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="NP DEREFERENCE OF READLINE VALUE" priority="2" rank="15"
abbrev="NP" category="STYLE" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="processRequest"</pre>
signature="(Ljava/net/Socket;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="36" end="71"</pre>
startBytecode="0" endBytecode="324" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <LocalVariable name="request" register="4" pc="49"</pre>
role="LOCAL_VARIABLE_VALUE_OF"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="51" end="51"</pre>
startBytecode="51" endBytecode="51" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="51" end="51"</pre>
startBytecode="51" endBytecode="51" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="OBL_UNSATISFIED_OBLIGATION" priority="2" rank="20" abbrev="OBL"</pre>
category="EXPERIMENTAL" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="serveFile"</pre>
signature="(Ljava/io/OutputStreamWriter;Ljava/lang/String;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="75" end="110"</pre>
startBytecode="0" endBytecode="320" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
```

```
</Method>
    <Class classname="java.io.Reader" role="CLASS_REFTYPE">
      <SourceLine classname="java.io.Reader"/>
    </Class>
    <Int value="1" role="INT OBLIGATIONS REMAINING"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="91" end="91"</pre>
startBytecode="47" endBytecode="47" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"
role="SOURCE LINE OBLIGATION CREATED"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="92" end="92"</pre>
startBytecode="51" endBytecode="51" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE LINE PATH CONTINUES"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="93" end="93"</pre>
startBytecode="57" endBytecode="57" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE_LINE_PATH_CONTINUES"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="104" end="104"</pre>
startBytecode="69" endBytecode="69" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE_LINE_PATH_CONTINUES"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="105" end="105"</pre>
startBytecode="75" endBytecode="75" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE LINE PATH CONTINUES"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="109" end="109"</pre>
startBytecode="99" endBytecode="99" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE_LINE_PATH_CONTINUES"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="110" end="110"</pre>
startBytecode="108" endBytecode="108" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java" role="SOURCE_LINE_PATH_CONTINUES"/>
    <String value="{Reader x 1}" role="STRING_REMAINING_OBLIGATIONS"/>
  </BugInstance>
  <BugInstance type="OS OPEN STREAM" priority="2" rank="16" abbrev="OS"</pre>
category="BAD_PRACTICE" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="serveFile"</pre>
signature="(Ljava/io/OutputStreamWriter;Ljava/lang/String;)V" isStatic="false">
```

```
<SourceLine classname="learnsecurity.SimpleWebServer" start="75" end="110"</pre>
startBytecode="0" endBytecode="56" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <Type descriptor="Ljava/io/Reader;" role="TYPE CLOSEIT">
      <SourceLine classname="java.io.Reader"/>
    </Type>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="91" end="91"</pre>
startBytecode="42" endBytecode="42" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="91" end="91"</pre>
startBytecode="42" endBytecode="42" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="REC CATCH EXCEPTION" priority="3" rank="20" abbrev="REC"</pre>
category="STYLE" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Class>
    <Method classname="learnsecurity.SimpleWebServer" name="serveFile"</pre>
signature="(Ljava/io/OutputStreamWriter;Ljava/lang/String;)V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="75" end="110"</pre>
startBytecode="0" endBytecode="320" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="94" end="94"</pre>
startBytecode="60" endBytecode="60" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="94" end="94"</pre>
startBytecode="60" endBytecode="60" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <BugInstance type="ST WRITE TO STATIC FROM INSTANCE METHOD" priority="1" rank="15"
abbrev="ST" category="STYLE" first="1">
    <Class classname="learnsecurity.SimpleWebServer">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
```

```
</Class>
    <Method classname="learnsecurity.SimpleWebServer" name="&lt;init&gt;"</pre>
signature="()V" isStatic="false">
      <SourceLine classname="learnsecurity.SimpleWebServer" start="16" end="18"</pre>
startBytecode="0" endBytecode="67" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Method>
    <Field classname="learnsecurity.SimpleWebServer" name="dServerSocket"</pre>
signature="Ljava/net/ServerSocket;" isStatic="true">
      <SourceLine classname="learnsecurity.SimpleWebServer"</pre>
sourcefile="SimpleWebServer.java" sourcepath="learnsecurity/SimpleWebServer.java"/>
    </Field>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="17" end="17"</pre>
startBytecode="14" endBytecode="14" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
    <SourceLine classname="learnsecurity.SimpleWebServer" start="17" end="17"</pre>
startBytecode="14" endBytecode="14" sourcefile="SimpleWebServer.java"
sourcepath="learnsecurity/SimpleWebServer.java"/>
  </BugInstance>
  <Errors errors="0" missingClasses="0"></Errors>
  <FindBugsSummary timestamp="Thu, 7 Feb 2019 02:35:39 -0600" total classes="1"</pre>
referenced classes="22" total bugs="8" total size="54" num packages="1"
java_version="1.8.0_181" vm_version="25.181-b13" cpu_seconds="41.27"
clock_seconds="289.80" peak_mbytes="668.37" alloc_mbytes="1024.00" gc_seconds="0.21"
priority_3="1" priority_2="3" priority_1="4">
    <PackageStats package="learnsecurity" total_bugs="8" total_types="1"</pre>
total size="54" priority 3="1" priority 2="3" priority 1="4">
      <ClassStats class="learnsecurity.SimpleWebServer"
sourceFile="SimpleWebServer.java" interface="false" size="54" bugs="8" priority 3="1"
priority_2="3" priority_1="4"/>
    </PackageStats>
    <FindBugsProfile>
      <ClassProfile name="de.tobject.findbugs.builder.FindBugs2Eclipse"</pre>
totalMilliseconds="413" invocations="2" avgMicrosecondsPerInvocation="206937"
maxMicrosecondsPerInvocation="225346"
standardDeviationMicrosecondsPerInvocation="18414"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.ClassInfoAnalysisEngine"
totalMilliseconds="260" invocations="349" avgMicrosecondsPerInvocation="747"
```

```
maxMicrosecondsPerInvocation="28117"
standardDeviationMicrosecondsPerInvocation="2563"/>
      <ClassProfile name="edu.umd.cs.findbugs.detect.FieldItemSummary"
totalMilliseconds="73" invocations="22" avgMicrosecondsPerInvocation="3360"
maxMicrosecondsPerInvocation="14908"
standardDeviationMicrosecondsPerInvocation="4075"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.ClassDataAnalysisEngine"
totalMilliseconds="71" invocations="349" avgMicrosecondsPerInvocation="204"
maxMicrosecondsPerInvocation="25174"
standardDeviationMicrosecondsPerInvocation="1341"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.bcel.UnconditionalValueDerefDataflowFactor
y" totalMilliseconds="64" invocations="5" avgMicrosecondsPerInvocation="12856"
maxMicrosecondsPerInvocation="53872"
standardDeviationMicrosecondsPerInvocation="20658"/>
      <ClassProfile name="edu.umd.cs.findbugs.classfile.engine.bcel.MethodGenFactory"</pre>
totalMilliseconds="51" invocations="5" avgMicrosecondsPerInvocation="10361"
maxMicrosecondsPerInvocation="49374"
standardDeviationMicrosecondsPerInvocation="19507"/>
      <ClassProfile name="edu.umd.cs.findbugs.OpcodeStack$JumpInfoFactory"
totalMilliseconds="47" invocations="78" avgMicrosecondsPerInvocation="602"
maxMicrosecondsPerInvocation="4301"
standardDeviationMicrosecondsPerInvocation="692"/>
      <ClassProfile name="edu.umd.cs.findbugs.detect.FindNoSideEffectMethods"
totalMilliseconds="46" invocations="22" avgMicrosecondsPerInvocation="2093"
maxMicrosecondsPerInvocation="8308"
standardDeviationMicrosecondsPerInvocation="2294"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.bcel.JavaClassAnalysisEngine"
totalMilliseconds="32" invocations="42" avgMicrosecondsPerInvocation="784"
maxMicrosecondsPerInvocation="18608"
standardDeviationMicrosecondsPerInvocation="2876"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.bcel.IsNullValueDataflowFactory"
totalMilliseconds="28" invocations="5" avgMicrosecondsPerInvocation="5799"
maxMicrosecondsPerInvocation="12636"
standardDeviationMicrosecondsPerInvocation="5146"/>
      <ClassProfile
name="edu.umd.cs.findbugs.detect.NoteDirectlyRelevantTypeQualifiers"
totalMilliseconds="28" invocations="22" avgMicrosecondsPerInvocation="1295"
maxMicrosecondsPerInvocation="5402"
standardDeviationMicrosecondsPerInvocation="1546"/>
      <ClassProfile
```

name="edu.umd.cs.findbugs.classfile.engine.bcel.ValueNumberDataflowFactory"

```
totalMilliseconds="27" invocations="5" avgMicrosecondsPerInvocation="5481"
maxMicrosecondsPerTnyocation="17277"
standardDeviationMicrosecondsPerInvocation="6069"/>
      <ClassProfile
name="edu.umd.cs.findbugs.classfile.engine.bcel.TypeDataflowFactory"
totalMilliseconds="26" invocations="5" avgMicrosecondsPerInvocation="5301"
maxMicrosecondsPerInvocation="14512"
standardDeviationMicrosecondsPerInvocation="5185"/>
      <ClassProfile name="edu.umd.cs.findbugs.util.TopologicalSort"</pre>
totalMilliseconds="26" invocations="316" avgMicrosecondsPerInvocation="83"
maxMicrosecondsPerInvocation="1328"
standardDeviationMicrosecondsPerInvocation="162"/>
    </FindBugsProfile>
  </FindBugsSummary>
  <ClassFeatures></ClassFeatures>
  <History>
    <AppVersion sequence="0" timestamp="1549534616820" release="" codeSize="0"</pre>
numClasses="0"/>
  </History>
</BugCollection>
```

### Test 3:

No bugs reported!!!

# **SonarLint Output:**

Resource Date Description

SimpleWebServer.java null Move the array designator from the variable to the type.

SimpleWebServer.java null Define and throw a dedicated exception instead of using a generic one.

SimpleWebServer.java null Define and throw a dedicated exception instead of using a generic one.

SimpleWebServer.java 8 hours ago Remove this assignment of "dServerSocket".

SimpleWebServer.java null Replace the synchronized class "StringBuffer" by an unsynchronized one such as "StringBuilder".

SimpleWebServer.java null Add an end condition to this loop.

SimpleWebServer.java null Use try-with-resources or close this "FileReader" in a "finally" clause.